Interventions in midwife led care in the Netherlands to achieve optimal birth outcomes: effects and women’s experiences
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Citation for published version (APA):
Rijnders, M. E. B. (2011). Interventions in midwife led care in the Netherlands to achieve optimal birth outcomes: effects and women’s experiences

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Discussion
General discussion

The aim of this thesis was to provide insight into women’s experiences and feelings about birth and maternity care in the Netherlands. Furthermore, it aimed to gain insight into rates, effects and women’s experiences of two medical interventions in primary care, i.e. external cephalic version and amniotomy for induction of near post date pregnancy.

Women’s experiences with birth

Examining women’s retrospective evaluation of Dutch maternity care and their experiences with birth it was found that a substantial proportion of women looked back negatively at their birth experience three years later. Furthermore, Dutch women looked back more negatively at birth compared to English women. Comparable findings were presented by Christiaens et al who compared Dutch women to Belgian women (1). The picture that emerges from the literature and this thesis is that women who gave birth at home were far more likely to have a positive birth experience and more positive emotions during birth compared to women who had a hospital birth either by their own choice or after referral. Women with an assisted birth after referral were least likely to experience their birth positively.

Some argue that a better experience after home birth compared to hospital birth is only caused by a better birth outcome which is in turn merely an effect of population characteristics. However, this does not take into account that elements associated with birthing at home, such as feelings of control and empowerment (2) may be caused by a less technical approach to birth (3;4), which may in turn cause positive such outcomes, at least partly (3). As the effectiveness of a home birth cannot be determined by a randomised clinical trial (5;6) evidence has to be derived from observational studies. In these studies a planned homebirth compared to a planned hospital birth under midwifery care is associated with lower rates of medical interventions including caesarean section, fewer intrapartum transfers of care from midwives to another practitioner, better birthing experiences and comparable maternal and perinatal outcomes (3;7-12). Therefore, given the best evidence available, it can be argued that choosing a home birth should be interpreted as an effective intervention that increases the chance on an optimal birth outcome. However, arguments were put forward recently that those women who have to be referred during birth are at increased risk of a negative experience and possibly of a less optimal perinatal outcomes (13). Although referral is associated with more negative experiences with birth (8;14-16) it has also been shown that women who were referred from home to hospital compared to women who were referred within a hospital setting did not have a more negative experience with the birth,
the midwife, or the post-partum period. (8;17). However, if referred after a home birth, women were less certain or less confident that they would make the same choice next time compared to women referred after a planned hospital birth. On the other hand, women who gave birth in hospital without referral to an obstetrician were not as certain that they would choose the same place of birth again as were the women who had given birth at home. Therefore, in order to improve experiences effort might be directed, as was concluded in Wiegers’ study first to reduce the fear of unplanned transfer from home to hospital, especially among nulliparous women, before advising women to choose a hospital birth only in order to avoid such transfer (8).

Nevertheless, it is obvious that negative experiences with referral and less optimal perinatal outcomes after referral (13) have to be taken very seriously. Therefore, research has to focus on why women’s experiences and perinatal outcomes are less optimal after referral and which interventions can lead to better outcomes.

Creating effective and realistic options for women in choosing their place of birth is a challenge for midwifery and obstetric care. The evidence provided by this thesis and other studies (1;8;9;15) that after home birth, continuity of care, no referral and more spontaneous birth women have the best birthing experience is an important point taking into account by planning research for improvement in maternity care. Studies showing to what extent suboptimal outcomes after referral are present and if present, what the origins of the suboptimal outcomes are should be carried out expeditiously. Preferably, obstetricians as well as midwives should take an interest in this research and should undertake these studies in a concerted effort. Ultimately, the results should be available before any conclusions about effectiveness and safety should enter the public debate. Interventions that have been suggested to be effective and that should urgently be tested in the Netherlands are multidisciplinary emergency training (18;19), continuous support (20) before and after referral and the creation of a more collaborative structure and culture in maternity care (21).

**Interventions in primary care**

A second approach that can be undertaken to increase the chances that women’s experiences improve and their preferences are being met is to design and implement effective and safe interventions in maternity care that prevent not only instrumental birth but also other unnecessary interventions, including unnecessary referrals (as this is the most important intervention in midwifery care). As shown in the article by Amelink et al in chapter 4 of this thesis an increase of 14.5% (from 36.9 to 51.4%) between 1988 and 2004 was observed in referrals from primary midwifery care to secondary obstetric care either during pregnancy, labour or in the postpartum period. In 2007, the referral rate increased further to 56.5% (22). The rise in the referral rate can be partly explained
by changes in demographic features of the population (23). It is also likely that increased possibilities in risk assessment, changing risk perceptions, and an increasing demand for pain relief (24) have contributed to an increasing referral rate.

In the Netherlands, maternity services have been changing from a social to a more medical model, especially in the last decade, and the risk assessment is part of this process. Contemporary midwifery is largely governed by risk assessment. Midwives assess women and allocate them into evidence- and consensus-based risk categories (24). By doing so, they influence the choices available to women throughout pregnancy and around birth (25). Identifying risks and referring women in time to secondary care is an important aspect of primary midwifery care. However, crucial in this process is counselling and the organisation of the care process. Concentrating predominantly on the one very rare adverse event rather than on all the positive outcomes may lead to ‘risk magnification’ which in turn raises anxiety about the risk rather than putting it in a woman’s proper individual perspective. This may subsequently lead to unnecessary referral and increase intervention rates (26). Research from the UK indicates that fear of childbirth has increased over recent years, along with an increased willingness to accept medical interventions during childbirth (27;28). Even midwives generally underestimate the ability of women to progress normally during birth and overestimate the advantages of technological interventions (29).

In this context, one can question why increasing the referral rate has been the only response Dutch midwives appear to provide in response to the changes in risk management and in demands. More efforts have to be undertaken to develop effective strategies within primary care to deal with changes in risk perception. In addition, risk selection should evolve from a consensus based model towards an evidence based model with more dynamic properties. Furthermore, caregivers counselling women should be better trained in helping women to make an informed choice based on the risks and benefits associated with their personal preferences (30-32).

Although the medical and social model of maternity care appear to be two extremes of the spectrum, both models have useful elements. By combining the advantages of the medical model (increased possibilities of risk assessment and improving outcomes on population level) with the advantages of a “social” midwifery model of care (emphasis on socially desirable ways to achieve good outcomes) the most optimal outcomes can be achieved. Furthermore, it can be argued that a woman’s experience is the most important outcome of maternity care as this incorporates good perinatal outcomes. When looking at maternity care from this perspective it seems important to study and/or implement interventions that are not only effective in preventing unnecessary interventions during birth but also meet women’s preferences and choices. In this thesis
two such interventions were examined in chapter 6, 7 and 8, i.e. external cephalic version in case of breech presentation and amniotomy for induction of labour in near postdate pregnancy. External cephalic version is an effective and safe intervention that prevents breech presentation at term. The majority of women undergoing ECV rated it as a good experience even if it failed. However, implementation of ECV should be improved as a quarter of the women with a confirmed breech did not receive an ECV. ECV is found to be a safe procedure. In our study of 956 ECV performed between 1996 and 2000, three serious complications occurred. In one case membranes ruptured during ECV leading to vaginal breech birth of a healthy baby. In two cases an emergency caesarean section was performed: one within 12 hours after ECV for the occurrence of blood loss several hours after ECV and a compromised baby. The baby was born in poor condition, but it recovered quickly enough to be able to leave the hospital within a week. The other emergency caesarean was performed because of vaginal blood loss and fetal heart rate pathology. A healthy baby was born. Grootscholten et al. reported in a meta analysis of almost 13,000 ECV’s a pooled complication rate ECV of 6.1% (95% CI 4.7–7.8), 0.24% for serious complications (95% confidence interval [CI] 0.17-0.34), 0.35% for emergency caesarean deliveries (95% CI 0.26-0.47) and a risk of fetal death in 1 per 5,000 external cephalic version attempts (33). In our study the overall complication rate was 2.2% (21/956), 0.31% (3/956) for serious complications and 0.21% (2/956) for emergency caesarean section. There was no foetal death. Therefore, ECV should be offered to all women with a breech presentation at term. The most effective method for the implementation of ECV is being researched at this moment (34). However, the optimal management of ECV is not yet clear. There is considerable discussion whether the performance of ECV should be restricted to a hospital setting. Grootscholten et al conclude that “considering the risk of an emergency cesarean delivery in 1 per 286 versions, external cephalic version should only be attempted in settings in which cesarean delivery services are readily available”. However, unclear is to what extent factors like tocolytics, or indications for performing a caesarean section can influence this outcome. Therefore, further research is needed to determine what the risks and benefits are of performing an ECV whether in a hospital or outpatient setting. Women should be counseled about the risk in a realistic way. Benefits of ECV in a hospital setting could be the use of tocolysis or ECV performed before term. Betamimetic tocolytics during ECV is associated with an increased success rate but also more maternal side effects (35). Nipididine has not shown to be effective (36) but ritodrine may be effective during a second attempt (37). ECV at 34-35 weeks gestation versus 37 or more weeks of gestation increases the likelihood of cephalic presentation at birth but does not reduce the rate of caesarean section and may increase the rate of preterm birth (38).
In our study the success rate of ECV in the Netherlands differed between regions. It is unknown what caused these differences. Kuppers et al (39) showed a higher success rate of ECV if performed in a regular specialized team following a standardized protocol. Finally, a prediction model for successful ECV, discriminating between women with a poor chance of successful ECV (less than 20%) and women with a good chance of success (more than 60%), is described by Kok et al. After validation, this tool should be used in the counseling of women opting for an ECV (40).

In case of near postdates pregnancy, amniotomy at home resulted in more spontaneous births compared to referral for medical induction of labour. Women were more likely to prefer the experimental treatment in a subsequent pregnancy. More studies into women’s experiences and the effectiveness with interventions in primary care are needed.

These results add to the evidence that induction in an outpatient setting is feasible (41). However, contrary to our results, a Cochrane meta analysis comparing different modes of induction of labour in an outpatient setting versus a hospital setting, showed no differences, either positive positively or negative, in outcomes between the two settings (42).

We found no significant intermediating effects between membrane sweeping and amniotomy. Membrane sweeping significantly decreases the chance of a post term pregnancy (gestation of 42 weeks or more) (43) and is not associated with adverse outcomes. Amniotomy is an irreversible intervention, associated with an increased chance of maternal and neonatal infection. Sweeping membranes should therefore be the first choice to offer all women approaching post term pregnancy, if necessary followed by amniotomy after 292 days gestation. However, the discussion around post term pregnancy has recently shifted towards induction of labour for (near) post term pregnancy at an earlier gestation, i.e. at 41 weeks versus 42 weeks gestation. It is unclear what the benefits and risks are of earlier induction of labour in the Netherlands and even more whether a change in policy coincides with women’s preferences. A trial in the Netherlands is being planned. Furthermore, research into the effects of different policies in the management of (near) post term pregnancy should also include alternative options in an outpatient setting.

In our study, not having had a choice in pain relief or not being satisfied in coping with pain were predictive factors for a negative recall with birth. However, research into women’s expectations and experiences with pain during labour and demand for pain relief has been only specifically addressed in two other studies one in 1988 and another in 2010. Dutch women’s experiences with pain and pain relief were compared to Belgian or American women’s experiences (44;46). In both studies it was shown that
Dutch women received less pain medication, but the experienced pain or pain acceptance was not different between Dutch and Belgian or American women.

However, given the differences between the Netherlands and other developed countries in the availability and use of pain relief in maternity care, the lack of national research into women’s expectations and experiences with pain management during labour can only be seen as a serious omission. Since the introduction of the Dutch guideline on pain relief by the Association of Anaesthesiologists in 2008 (46) the possibilities for women to receive pain relief have been improved. However, the increased offer of pain relief has been limited to specialist care in a hospital setting and little attention has been paid in the development of effective strategies for pain relief in primary care (32;47-49). Therefore, research into women’s expectations, preferences, experiences and choices in pain management is urgently needed. Furthermore, methods or instruments have to be developed that can identify women who are at increased risk of catastrophizing their pain experiences. Identifying women’s pain cognitions before labour, raises the possibility for interventions during pregnancy and labour that enhances the acceptance of pain and improves coping strategies (50;51). Finally, research is urgently needed that address effective and safe methods of pain relief in primary care.

However, receiving pain relief is not by itself important for a good birth experience (52). It may be equally important that midwives “tune in to the needs of women” (53;54). In this thesis it is shown that women are more likely to have a negative birth experience or recall more negative emotions during birth if they felt that they were not involved in decision making regarding pain management, did not receive continuity of care, had fear during birth or described their caregiver overall more negatively.

In the treatment of vulnerable populations, whether patients with chronic pain or post-traumatic stress disorder, “clinical empathy” has been proven to be very powerful in helping people retain a sense of agency and control (55). Clinical empathy is defined as the competency of healthcare providers to listen to a patient with emotional attunement and to have the curiosity to learn more about his or her particular feelings and needs (56). Clinical empathy thus seeks cognitive understanding of what in particular is bothering this individual, in contrast to sympathy in which one may feel generic concern for a patient but not seek to understand what is distinct about this person’s needs. In the USA, training in such fields as oncology, geriatrics, paediatrics, and rehabilitation medicine now include rigorous attention to developing the precise skills necessary for empathic listening (57;58). To our knowledge, no such training exists in the Netherlands in the fields of obstetrics and midwifery. In the midwifery based literature numerous studies point at what women consider important during their births.
suggesting distinct goals for clinical empathy during birth. Women particularly value feeling a sense of agency, of control over their pain and fear (59-63).

Anno 2011 the Dutch maternity system is at a crossroad. The relatively high perinatal mortality rate (64;65) has stirred the professional and public opinion. So far, differences in perinatal mortality between countries does not appear to be explained by differences in population characteristics, although living in a deprived area can be a contributing factor to adverse outcomes (66;67). Recent research has focussed on the possible contributing factor in the organization of maternity care. For instance the effect on perinatal mortality and morbidity by place of birth or type of caregiver (12;13) and the effect of centralization of care (69). Subsequently, a number of initiatives in the organization of maternity care have been implemented that are aimed at improving perinatal outcomes or experiences of women with pregnancy, birth and received care. There is for instance an increase in number of birthing centres, local policies have been put into place to induce labour for (near) post term pregnancy at an earlier gestation or to provide routine ultrasound in the third trimester of pregnancy to prevent small for gestational age. However, sound evidence of the effectiveness of all these interventions is still lacking and women’s preferences and experiences regarding these new policies are unknown. Evidence for the perinatal outcomes of these changing practices and for the concomitant factors that may influence women’s preferences should therefore be a topic in future research programmes.

Improving Dutch maternity care by simply imposing a more medical model of care and not looking at home birth as a real option disregards women’s preferences and ignores their good experiences with birth in primary care. More attention should be paid to the development and implementation of effective interventions in maternity care that meet with women’s preferences.

**Implications for practice**

**Risk selection**
Dutch midwives, obstetricians and policymakers should critically examine the increase in referrals and work together to maintain a rational system of maternity care for low-risk pregnant women.
Women's well being
Changes in Dutch maternity care should only be investigated in concurrence with research into their effect on women’s experiences with birth, their well being and perinatal outcomes and implemented after all these aspects have been evaluated.

Continuity of care by the initial chosen caregivers before, during and after birth should be offered to all women, irrespective of place and mode of birth and status of referral.

External cephalic version
Strategies that increase the number of women with breech presentation who receive an external cephalic version should be implemented. These should include counselling women with a baby in breech presentation who are approaching term on the importance of the procedure and prepare them for experiencing some discomfort and pain during the procedure.
Repeat ECV increases the number of cephalic presentations at birth and should be offered after an unsuccessful ECV.

Amniotomy before labour near post term
Within midwifery-led care at home, amniotomy increases the chance for spontaneous delivery for near post dates pregnancy. It is recommended that amniotomy is performed in the morning and that the period of expectant management does not exceed eight hours.

Recommendations for research
Research has to focus on how to optimise women’s experiences and perinatal outcomes in the Netherlands especially after referral and which interventions can lead to better outcomes.

Research is needed into innovative and effective interventions in maternity care that meet with women’s preferences for place of birth and prevent unnecessary interventions.

Research is needed into women’s coping strategies, preferences, expectations and experiences with pain management during birth.

Research is needed into the development of methods and/or instruments that can identify women who are at increased risk of catastrophizing their pain experiences, as
well as into interventions that enhance the acceptance of pain and improve coping strategies.

Research is needed into effective and safe methods of pain relief during labour in primary care.

Research is needed into the effectiveness of earlier induction of near post term pregnancy, as well as research into methods for induction in outpatient settings.

Research is needed into the effectiveness, risks and benefits of ECV in a hospital setting compared to an outpatient setting.

Research is needed into factors (such as tocolysis) that improve the success rate of first and repeat attempts of ECV.

Prospective research is needed into women’s preferences, expectations and experiences with birth and subsequent health and well-being of mothers and their partners in different birthing cultures that use the same standard measures and methodology, thus enabling comparison between countries and across cultural differences.
Reference List


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